

عنوان مقاله:

Palm Oil Mill Effluent Tertiary Treatment By Physicochemical Treatment Using Ferrous Sulphate

محل انتشار:

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خلاصه مقاله:

The palm oil milling industry in Malaysia will be imposed with more stringent treated waste water discharge requirement from currently at BOD of 100 ppm to BOD of 50 ppm and gradually to BOD of 20 ppm. Study was conducted to use Ferrous Sulphate as more economical coagulant to reduce the biological load for tertiary treatment in palm oil mill effluent treatment at laboratory and pilot scale facility to comply with the proposed new requirement. The feed water that was aerobically treated POME with BOD of below 100 ppm was treated with various dosage of ferrous sulphate, from 250 to 2250 ppm. It was found that at laboratory jar-test, the required ferrous sulphate dosage to meet BOD-50 ppm requirement was at 750 ppm while BOD-20 ppm requirement was achieved when the ferrous sulphate dosage was at 1,750 ppm and did not produce hazardous activated sludge. The laboratory findings was scaled-up to pilot scale facility with the capacity of 7 ton/hour to evaluate the physicochemical tertiary treatment based on continuous system. Ferrous sulphate dosage at 1,000 ppm and 1,750 ppm were able to comfortably comply with the discharge limit of BOD-50 ppm and BOD-20 ppm, respectively.

کلمات کلیدی:

BOD reduction, Ferrous sulphate, POME tertiary treatment

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